

WHAT IS CLAIMED IS:

1. An opening and closing control system for an opening-closing member of a vehicle comprising:

5     an opening and closing mechanism for opening and closing the opening-closing member relative to the vehicle;

an actuator for operating the opening and closing mechanism;

an electromagnetic clutch for controlling a torque transmission by connecting and disconnecting the actuator and the opening and closing  
10     mechanism;

an opening and closing angle detecting means for detecting an opening and a closing angle of the opening-closing member relative to the vehicle;  
and

a control means for controlling an electric power supplied to the  
15     electromagnetic clutch based on a detected result from the opening and closing angle detecting means and controlling an electric power supplied to the actuator.

2. An opening and closing control system for an opening-closing member of a  
20     vehicle according to claim 1, wherein a supporting force of the opening and closing mechanism required for supporting the opening-closing member of the vehicle is increased in accordance with the movement of the opening-closing member of the vehicle from an intermediate position to an opened position or a closed position, and the control means for decreasing the  
25     electric power supplied to the electromagnetic clutch in accordance with the movement of the opening-closing member of the vehicle from the intermediate position to the opened position or the closed position.

3. An opening and closing control system for an opening-closing member of a  
30     vehicle according to claim 2, wherein the opening and closing mechanism

includes a crank gear provided rotatably around a crank shaft for opening and closing the opening-closing member of the vehicle, a slider reciprocating along with a guide member, a crank arm pivotally connected to the crank gear on one end thereof with a crank pin and pivotally connected to the slider on the other end thereof with a slider pin, and an operating member for the opening-closing member for operatively connecting the slider and the opening-closing member of the vehicle, and wherein a length of a perpendicular line, which vertically connects a center of the crank shaft and an arm line connecting a center of the crank pin and a center of the slider pin, or an extension of the arm line in longitudinal direction, when the opening-closing member of the vehicle is located at the intermediate position, is longer than the length of the perpendicular line when the opening-closing member of the vehicle is located at the opened position and the closed position.

4. An opening and closing control system for an opening-closing member of a vehicle according to claim 2, wherein the opening and closing mechanism includes the crank gear provided rotatably around the crank shaft for opening and closing the opening-closing member of the vehicle, the slider reciprocating along with the guide member, the crank arm pivotally connected to the crank gear on one end thereof with the crank pin and pivotally connected to the slider on the other end thereof with the slider pin, and the operating member for the opening-closing member for operatively connecting the slider and the opening-closing member of the vehicle, and wherein the length of the perpendicular line, which vertically connects the center of the crank shaft and the arm line connecting the center of the crank pin and the center of the slider pin, or the extension of the arm line in longitudinal direction, is gradually decreased in accordance with the movement of the opening-closing member of the vehicle from the intermediate position to the opened position or the closed position.

5. An opening and closing control system for an opening-closing member of a vehicle according to claim 2, wherein the opening and closing mechanism includes the crank gear, the slider, the crank arm, and the operating member for the opening-closing member, wherein the crank arm is provided between the crank gear and the slider, and the slider provided between the crank arm and the opening-closing member of the vehicle.